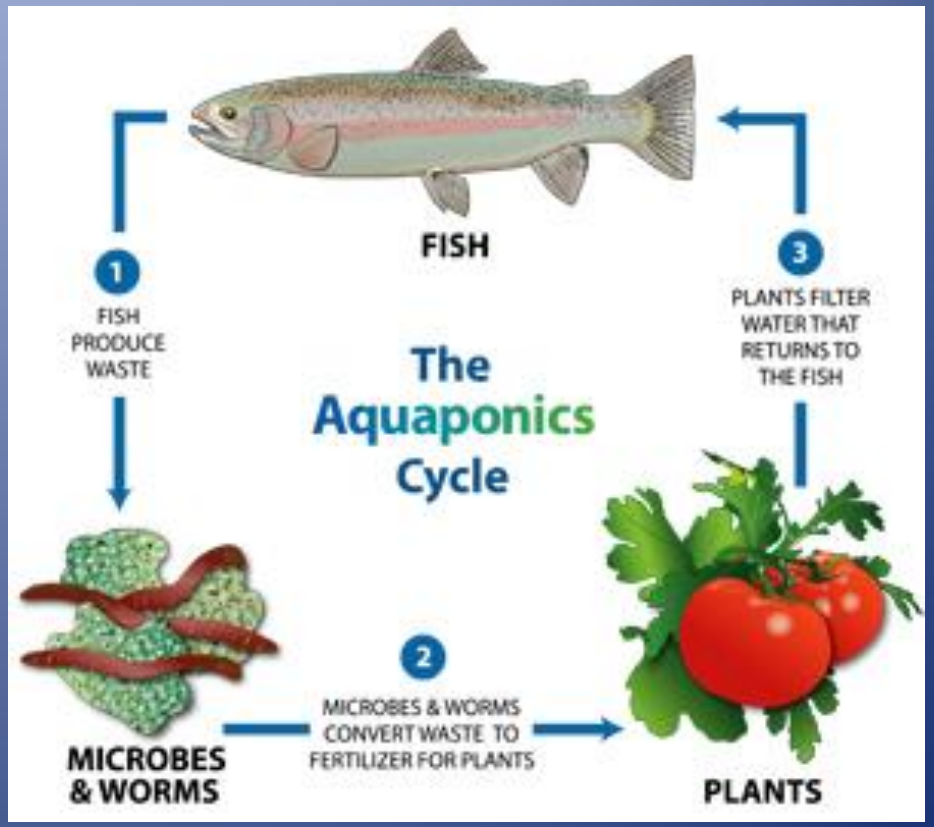
Central Greens

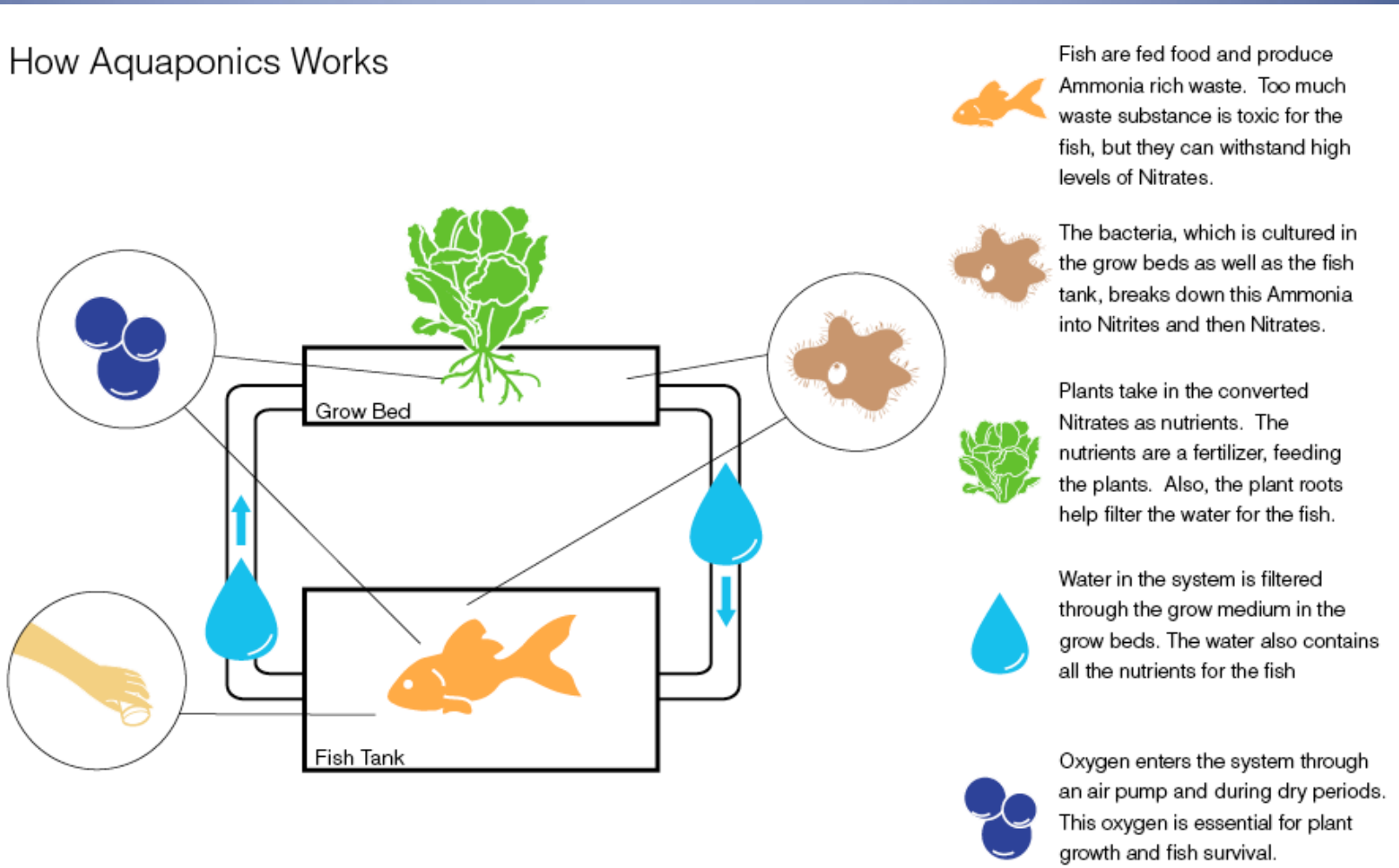
Feeding the community's mouths and minds for a healthier and more environmentally conscious future.

What is Aquaponics?

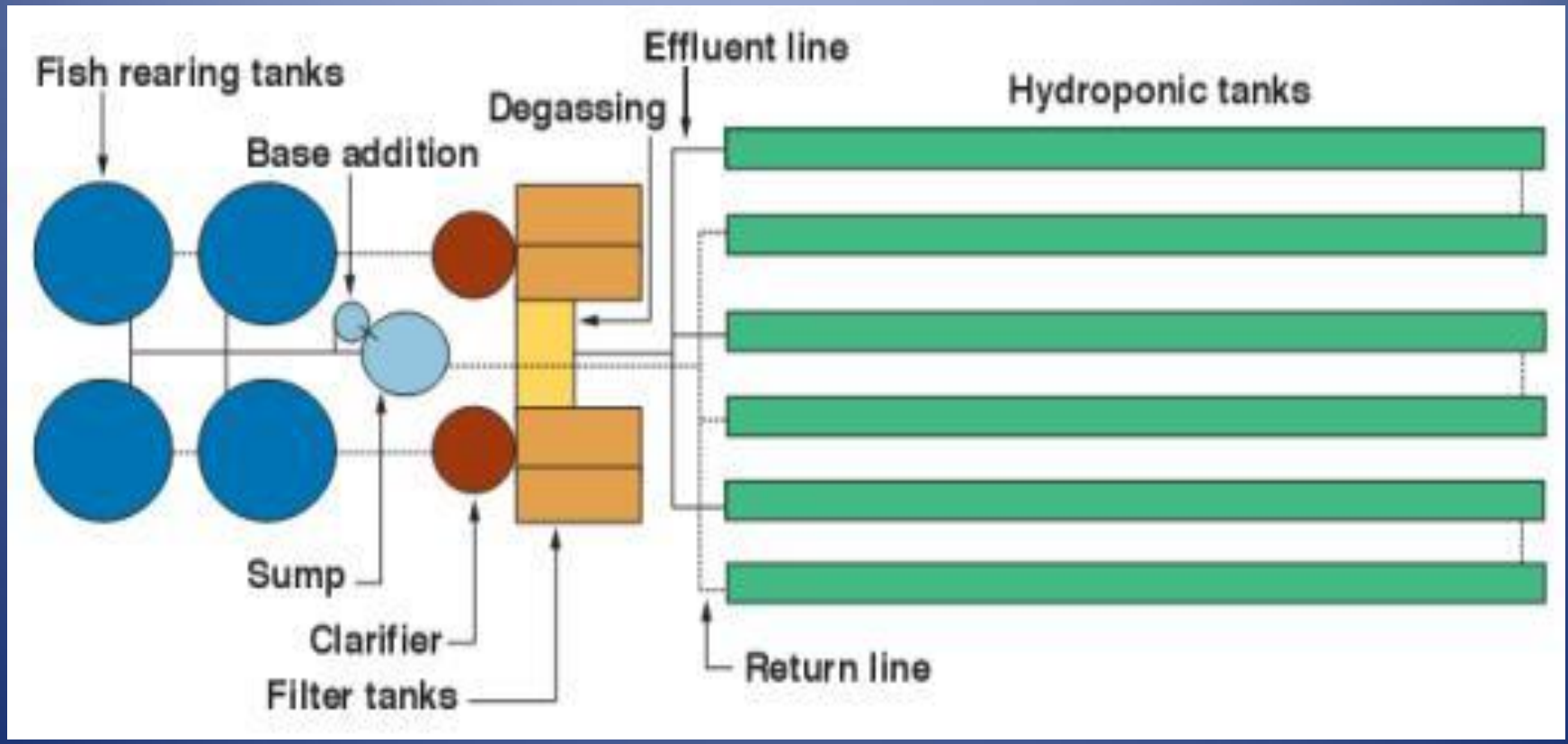
- Aquaponics is the marriage of aquaculture (raising fish) and hydroponics (the soilless growing of plants) that grows fish and plants together in one integrated system. The fish waste provides an organic food source for the growing plants and the plants provide a natural filter for the water the fish live in. The third participants are the microbes (nitrifying bacteria) that thrive in the bio filtration media. They do the job of converting the ammonia from the fish waste first into nitrites, then into nitrates that are food for the plants.



Nitrification Process



System Design

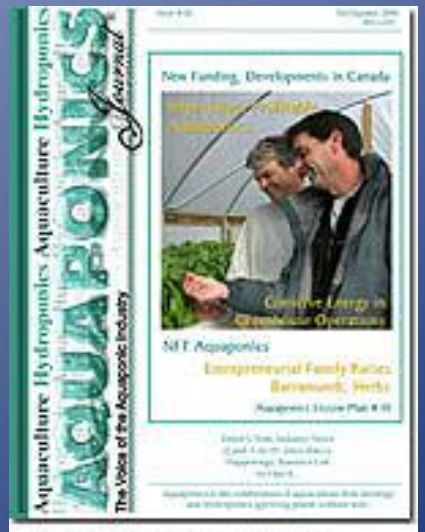


History and Origins

- Long before the term “aquaponics” was coined in the 1970s the *Aztec Indians* raised plants on rafts on the surface of a lake in approximately 1,000 A.D.
- In 1,000 B.C., the Chinese began to cultivate catfish directly in flooded rice paddies.

- In *modern times* aquaponics emerged from the aquaculture industry as fish farmers were exploring methods of raising fish while trying to decrease their dependence on the land, water and other resources.
- In the 1970s research on using plants as a natural filter began, most notably by *Dr. James Rakocy at the University of the Virgin Islands*
- The first large scale commercial aquaponics facility, *Bioshelters in Amherst, MA*, was established in the mid-1980s, and it is still in operation today.
- The introduction of the Aquaponics Journal in 1997 by Rebecca Nelson and John Pade brought the technology and the industry together for the first time. Rebecca Nelson also wrote the book Aquaponic Food Production.

Courtesy of the University of the Virgin Islands



Courtesy of Nelson and Pade, Inc.

- Home based aquaponics owes its origin in the early 1990s to *Tom and Paula Speraneo of S&S Aquafarms* in West Plains, MO. The Speraneo's diligently refined a media bed growing technique that was more appropriate for smaller systems, and wrote a how-to manual that became a spring board for many home based systems build through-out the world.
- In 2005, Travis Hughey wrote the Barrel-ponics guide and made it available for free on his Faith And Sustainable Technologies website. Since then thousands of barrelponics systems have been built in the U.S.
- Meanwhile, on the other side of the world in *Australia* interest in aquaponics was taking off because aquaponics is a way to solve the drought and poor soil conditions that the Australians have to contend with. *Joel Malcom* led the movement by starting a popular forum (*Backyard Aquaponics)*, writing a book on creating backyard aquaponic systems, and creating and selling aquaponic systems designed specifically for homeowners. Malcom currently operates a retail center called Backyard Aquaponics dedicated entirely to aquaponics in Perth, Australia and edits Backyar Aquaponics Magazine.
- Popularization of aquaponics has grown steadily through the past decade with the most noteworthy champion being MacArthur Foundation "genius grant" award winner *Will Allen of Growing Power*, who has integrated aquaponics into his two acre urban farm in Milwaukee.

Courtesy of Travis W. Hughey, Pres., F.A.S.T.

Courtesy of Growing Power, Inc.

Benefits of Aquaponics

- Environmental
- Production
- Quality
- Education
- Community Development

Aquaponics Models

- Vertical / Tier Method
- Barrel/Media Method
- Raft Method

Central Greens Facility

Products

- Lettuce
- Specialty Herbs
- Micro greens
- Sprouts
- Medicinal Herbs
- Seasonal fruiting vegetables
- Tilapia
- Organic Fertilizers

Services

- Tours
- Volunteerism
- Workshops
- Seasonal Farmer's Market
- Youth Education
- Community Revitalization Projects

The Future of Central Greens

- Expand our facility by establishing a six bay greenhouse with an additional research and education center
- Our mission is to create a sustainable living environment through our advanced growing techniques. We will devote our time a to the support of the community, environment, and customers, buy utilizing a unique system to provide year round, highly nutritious and locally grown produce and fish.
- Become fully integrated into the community and accelerate it's path towards a sustainable future
- Training of the Human plant